Case Report

Coronary Arteries Originating from a Single Coronary Ostium in the Right Sinus of Valsalva

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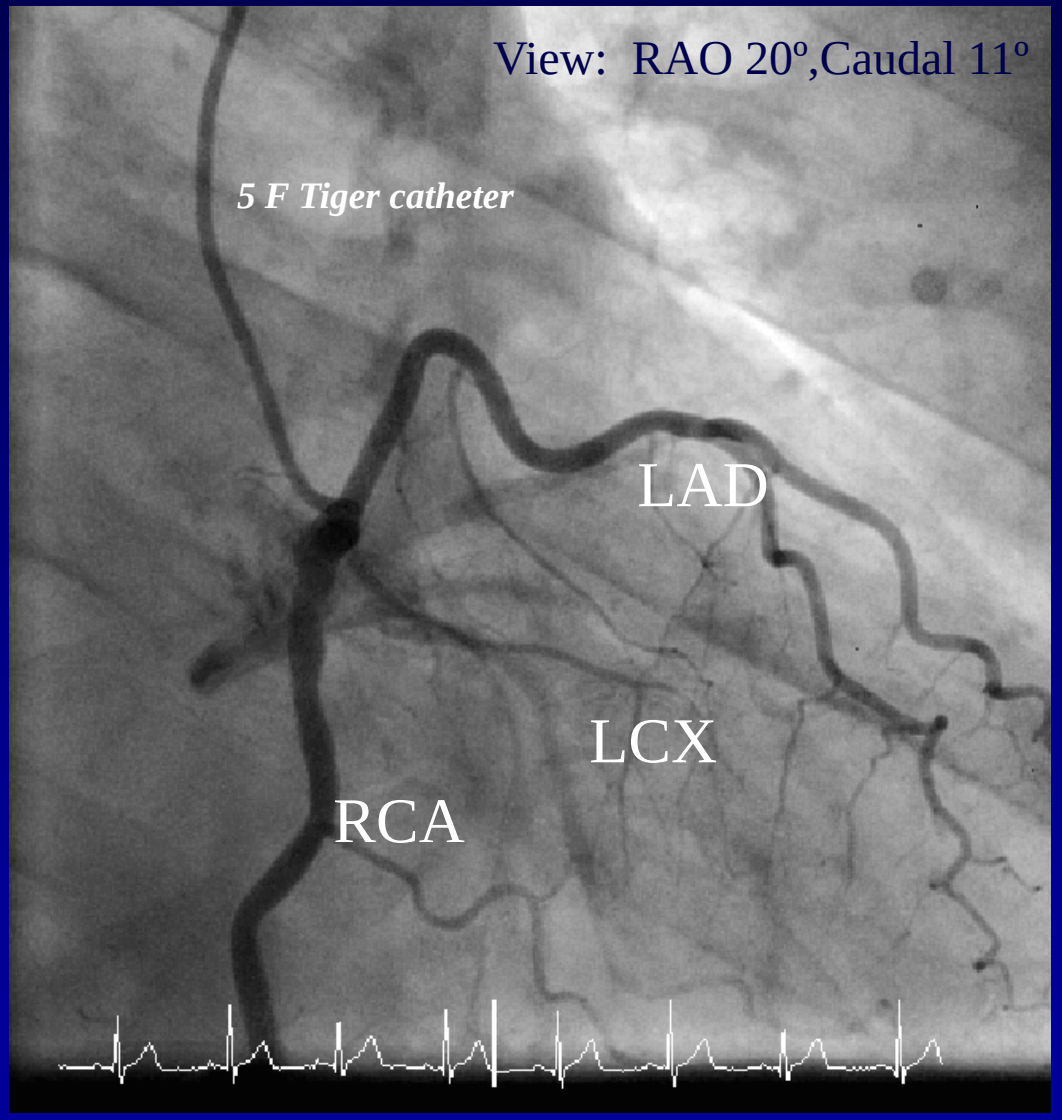
Case Presentation

- A 51-year-old male patient
- Reason for admission: retrosternal chest pain
- History of present illness: burning retrosternal pain at rest 5/10 by numeric descriptive scale lasting for several hours, not relieved by nitrates
- Past medical history: asthma
- Atherosclerotic risk factors: hyperlipidemia, hypertension and current smoking
- No history of previous CAD

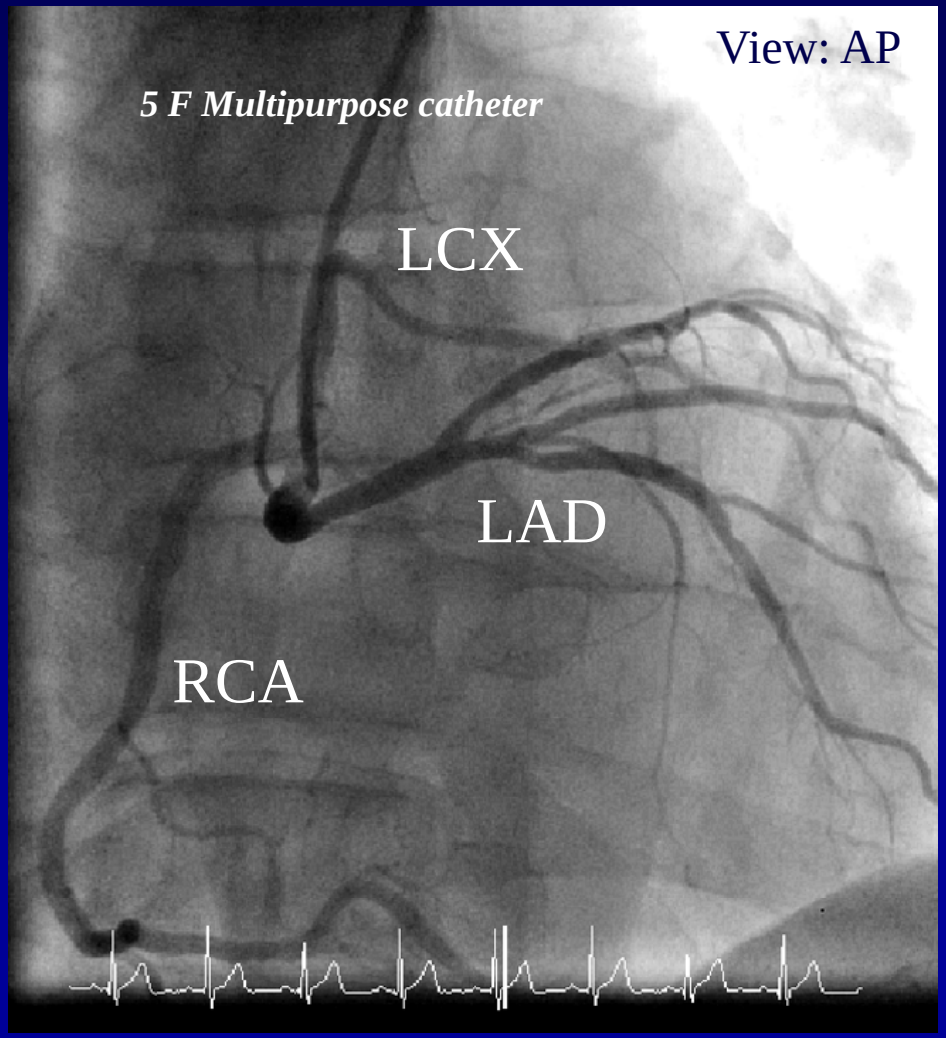
Case Presentation (Cont'd)

- Physical examination: unremarkable
- ECG – NSR, ICRBBB. No Q-waves. Mild (0.5mm) ST-segment elevation in 2,3,AVF
- cTnI on admission – 0.00 ng/ml
- Given clinical presentation and ECG changes, the patient was referred for coronary angiography

Coronary Angiogram



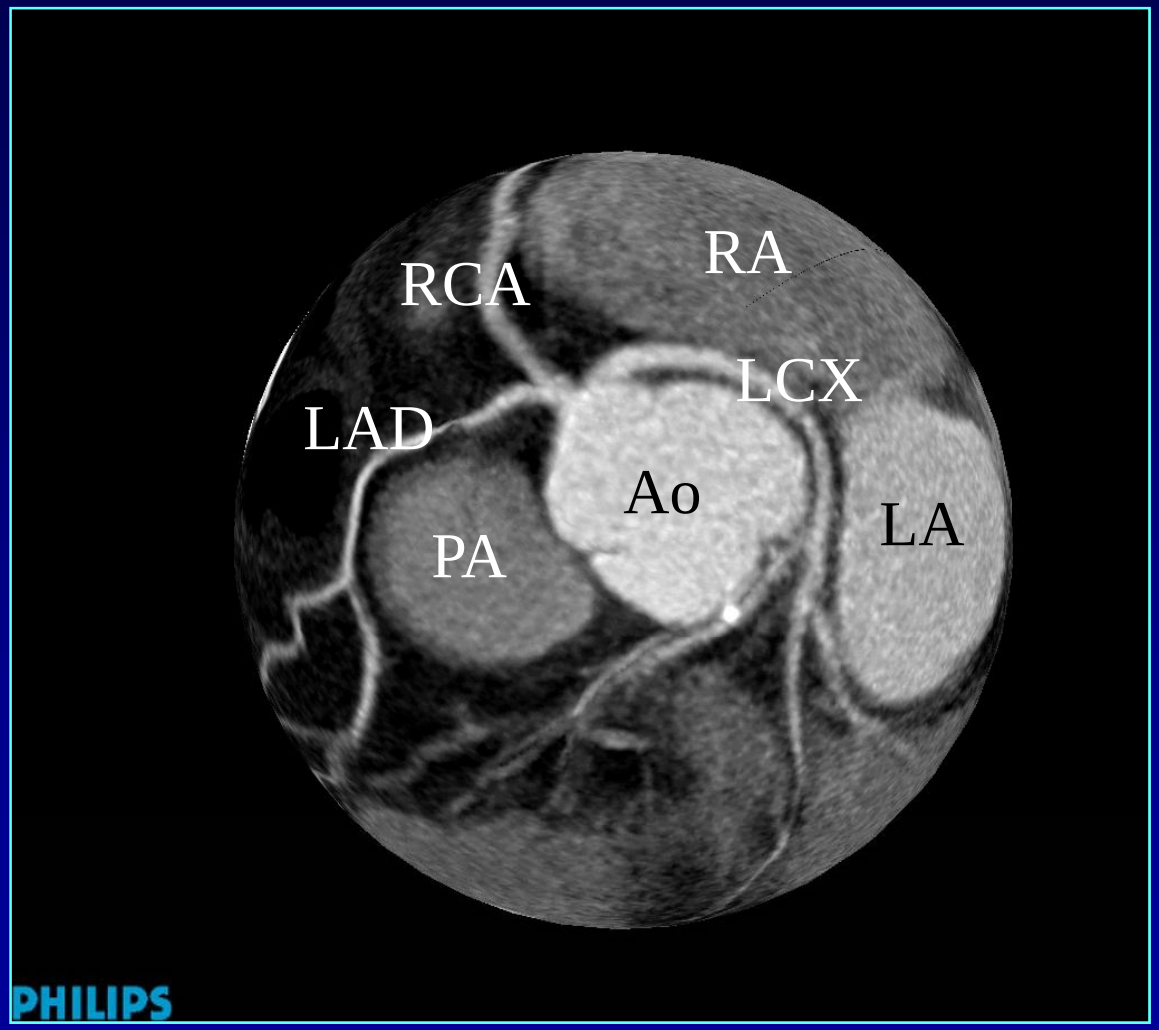
Coronary Angiogram



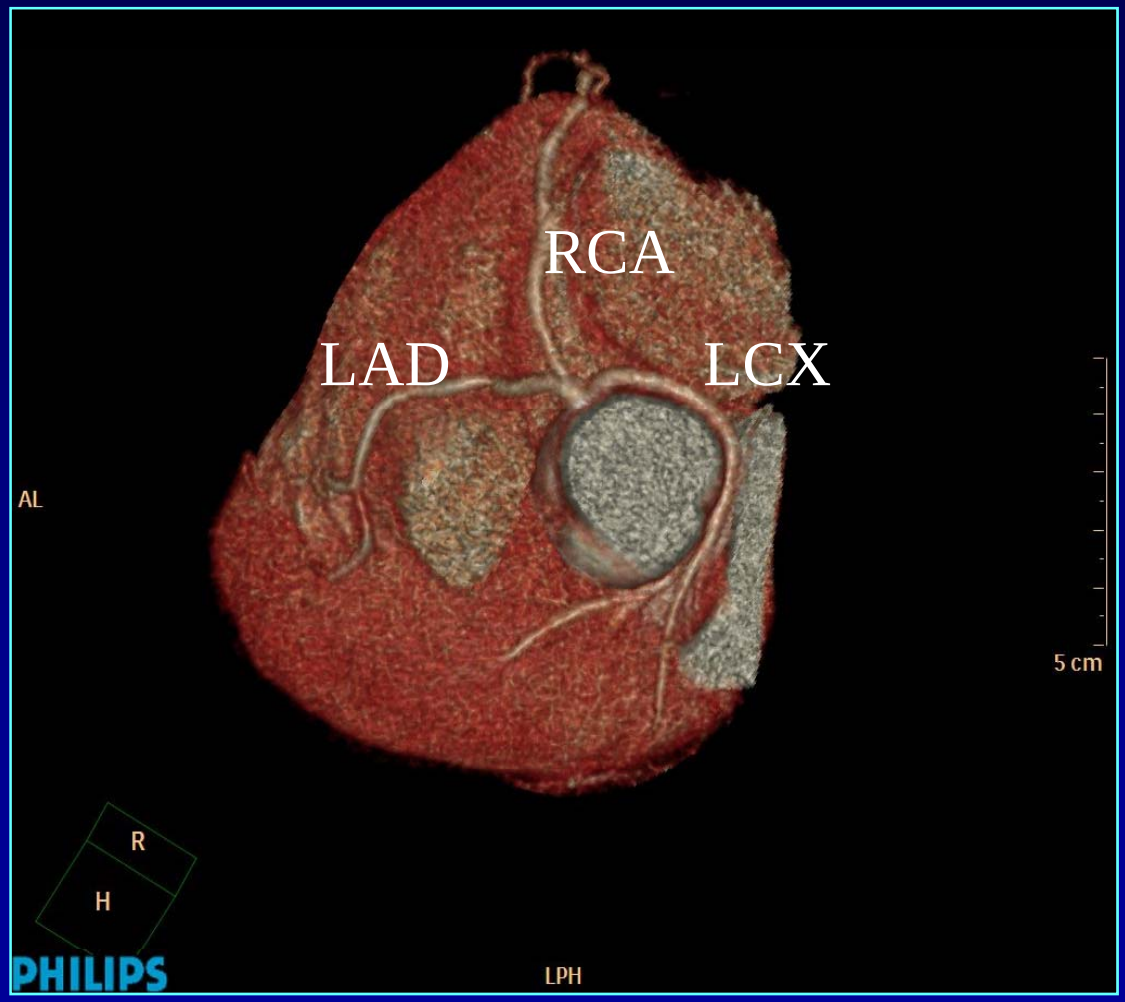
Coronary Angiography

- There was a common ostium for the left anterior descending artery (LAD) , Left circumflex artery (LCX) and right coronary artery (RCA).
- 5 F Tiger catheter and 5 F Multipurpose catheter were used to engage the common ostium and all three vessels were visualized with a single injection showing no evidence of CAD.
- The patient's left ventricular function was normal.
- The next day the patient had Cardiac CT confirming coronary circulation originating from a single coronary ostium in the right sinus of Valsalva. Neither of branches of the single coronary artery passed between aorta and pulmonary artery.

64-Slice Cardiac CT



64-Slice Cardiac CT



Clinical Course

- Chest pain resolved spontaneously
- Cardiac enzymes did not increase
- The patient was discharged home in good condition
- 30-day F/U: uneventful

Discussion

- The prevalence of coronary anomalies in patients undergoing coronary angiography is approximately 1.3%.
- Coronary arteries originating from a single coronary ostium in the aorta are very rare, occurring in 0.024–0.044% of the general population.
- The majority of coronary artery anomalies are incidental findings and are not clinically significant except for cases in which a coronary artery traverses between the pulmonary artery and aorta, which can cause syncope, angina, arrhythmias and/or sudden death due to extrinsic coronary arterial occlusion.
- Cardiac CT is a method of choice to clarify the passage of coronary arteries in relation to aorta and pulmonary artery.